

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: TATEISHI *et al.*

Serial No. 10/577,375

Filed: February 12, 2007

Art Unit: 1651

Conf. No. 6219

Examiner: Irene MARX

Attorney Docket No.: 09-164-US

**FUNGUS HAVING ACTIVITY OF  
CONTROLLING DISEASE OF  
GRAMINEOUS PLANT, CONTROLLING  
AGENT USING THE SAME, METHOD OF  
CONTROLLING AND BIOLOGICAL  
MATERIAL**

Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF HIDEAKI TATEISHI UNDER 37 C.F.R. § 1.132**

I, Hideaki TATEISHI, hereby declare as follows:

1. That I am a citizen of Japan residing as c/o KUREHA CORPORATION, 16, Ochiai, Nishiki-machi, Iwaki-shi, Fukushima-ken, Japan.
2. That I graduated from Agricultural Chemistry, School of Agriculture, Meiji University on March 1986, completed the master's course in Agricultural Chemistry of Meiji University on March 1988.
3. That I am presently an employee of KUREHA CORPORATION, have been an employee thereof since 1988 and am presently engaged in the research and development of agricultural chemicals as Chief Researcher of Research Center.
4. That U.S. Patent Application Serial No. 10/577,375 filed on October 29, 2004 was assigned to KUREHA CORPORATION and I am one of the inventors of the application.

5. That the following experiments were conducted under my control in order to compare the presently claimed strain of *Talaromyces* to the prior art strains cited by the Examiner.

*That all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.*

Signature: Hideaki Tateishi

Name: Hideaki Tateishi

Date: August 20, 2010

### Comparative experiment 1

#### Efficacy to "Bakanae" disease caused by *Gibberella fujikuroi*

Using infected rice seeds (cultivar: Tangin-bozu, product of the year 2006), to which *Gibberella fujikuroi* has been inoculated during the flowering period, efficacy of *Talaromyces* sp. B-422 (FERM BP-08516) and *Talaromyces flavus* (ATCC32908) on the disease by means of seed treatment were investigated. Each strain was cultured in PDA medium at 25 °C for 10 days, and spores thereof were suspended in sterilized water to prepare a spore suspension having a predetermined concentration.

The seeds infected by *Gibberella fujikuroi* were soaked in the spore suspension of the antagonistic fungi in a bath ratio of 1:1 for 24 hours and then in a bath ratio of 1:1 at 15 °C for 4 days, and further in a bath ratio of 1:1 at 30 °C for 1 day in order to induce germination. After that, 5 g of dry seeds equivalent per pot were sown (each section has 3 replications) in a nursery box (10 x 15 cm) for raising seedling loaded with a commercial granulated soil for raising seedling (brand name: KUMIAI granulated soil). Then the seeds were germinated at 30 °C for 3 days and were grown in a glass green house. After 21 days from the sowing, ratios of incidence of seedlings in each test section were investigated to calculate preventive values. The sum of seedlings in each test section was 550.

Strain	Spore concentration (cells/ml)	Number of investigated seedlings (%)	Ratio of damping-off seedlings (%)	Ratio of elongated seedlings (%)	Ratio of diseased seedlings (%)
B-422 (present invention)	$1.0 \times 10^3$	550	0.0	86.7	86.7
	$1.0 \times 10^2$	550	0.0	95.0	95.0
<i>Talaromyces flavus</i> ATCC 32908(Kim)	$1.0 \times 10^3$	550	0.0	100.0	100.0
	$1.0 \times 10^2$	550	0.0	100.0	100.0
No treatment		550	0.8	99.2	100.0

Preventive value
13.3
5.0
0.0
0.0
0.0

This efficacy test was performed under the high disease pressure.

### Comparative experiment 2

#### Efficacy to rice seedling rot caused by *Burkholderia glumae*

Using infected rice seeds (cultivar: Tangin-bozu, product of the year 2006), to which *Burkholderia glumae* has been inoculated during the flowering period, efficacy of *Talaromyces* sp. B-422 (FERM BP-08516) and *Talaromyces flavus* (ATCC32908) on the disease by means of seed treatment were investigated. The method for treatment of the seeds were performed in a same way as mentioned in comparative experiment 1 except that the temperature was set at 32 °C instead of 30°C in order to induce germination.

After 21 days from the sowing, ratios of incidence of seedlings in each test section were investigated to calculate preventive values. The sum of seedlings in each test section was 550.

Strain	Spore concentration (cells/ml)	Number of investigated seedlings (%)	Ratio of diseased seedlings (%)	Preventive value
B-422 (present invention)	1.0x 10 <sup>4</sup>	550	46.7	44.0
<i>Talaromyces flavus</i> ATCC 32908(Kim)	1.0x 10 <sup>4</sup>	550	90.0	0.0
No treatment		550	83.3	0.0

This efficacy test was performed under the high disease pressure.